MINI**6600**™
Digital Mobile C-Arm

Periodic Maintenance Procedure

00-879519-01

© December 1997

OEC Medical Systems, Inc.
384 Wright Brothers Drive
Salt Lake City, Utah 84116

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This procedure does not contain any steps which can be performed by the system operator.
The steps contained in this procedure should not be attempted by anyone
who is not specifically trained or authorized by OEC to work on the
MINI6600™ system.

The contents of this procedure are accurate at the time of publication. However, changes in design and additional features may be incorporated in the hardware and software which are not reflected in this version of the procedure. Contact OEC Technical Support for clarification, if discrepancies arise.

The MINI6600 Digital Mobile C-Arm is
manufactured under the following U.S. Patents:
4.768.216;
4.797.907;
4.209.706.
Other Patents Pending.

Revision History

Rev	Dash	Date	Change Description
1	-01	Jul 96	Initial Publication
A	-01	Aug 96	Manufacturing Release
		Dec. 97	CD-ROM Release

General Instructions

Use the following procedures to perform periodic maintenance on the MINI6600 Mobile Imaging System. The MINI6600 Periodic Maintenance Form must be completed as the procedures in this manual are performed. If the system does not pass a portion of the procedure, correct the problem before completing the PM Form. Note all failures and the corrective action taken in the comments section of the PM Form. Additional space is provided at the end of the PM Form.

The tools and test equipment that are required to perform Periodic Maintenance, are described in Appendix A.

All Torx screws have recommended torque specifications. These specifications are described in Appendix A.

IMPORTANT:

The PM Procedures do NOT list all the steps necessary to complete the PM.
The service engineer WILL NEED the Service Manual (00-878315) to complete the PM.

SAFETY

Ingress Of Water And Solutions

The system must never be operated or stored in locations where conductive fluids, like water and saline solution, might spill on the equipment.

Always unplug the AC power cable from the wall outlet before cleaning the equipment. Do not allow water, soap, or other liquids to drip into the equipment and cause short circuits, electric shock and fire hazards.

Mechanical Operation

The Articulating arm is manually adjusted.

Trained Service Personnel

Serious injury and property damage can result from incorrectly performed service procedures. Observe all operating and safety procedures contained within this manual.

WARNING:

Procedures contained in this manual should only be performed by service personnel specifically trained by OEC Medical Systems, Inc. to calibrate the MINI6600 System.

Electrical Shock

WARNING:

This system is capable of generating lethal voltages. Observe safe electrical testing procedures when performing periodic maintenance procedures on the system.

X-Radiation Exposure

The X-ray tube assembly produces X-radiation when energized. Never operate this device without X-ray shielding in place. Use lead shielding and draping to protect personnel.

WARNING:

Lead aprons, radiation monitors and appropriate radiation shields must be utilized by personnel while performing tests.

Living human anatomy should never be used as a phantom or demonstration aid.

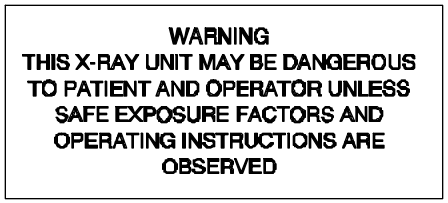
CAUTION:

Many of the PCB's in this system contain components which are sensitive to Electro-Static Discharge (ESD). Observe ESD safety procedures.

WARNING: Labels

The following warning labels may be found on the system:

X-RAY SAFETY WARNING:



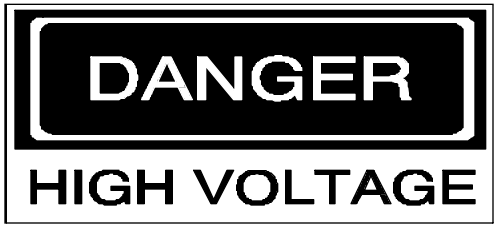
WARNING: Symbols

The following symbols may be found on the MINI6600:

DANGEROUS VOLTAGE PRESENT

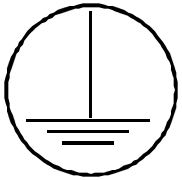
Dangerous voltages are present use safety precautions.

DANGEROUS VOLTAGE PRESENT



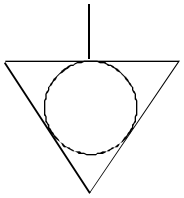
Dangerous voltages are present - use safety precautions.

EARTH GROUND



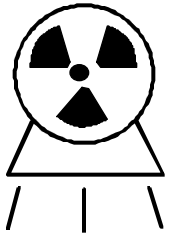
The protective earth ground should be the last electrical connection broken and the first electrical connection made during servicing procedures.

POTENTIAL EQUALIZATION



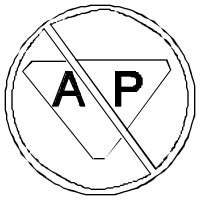
GRN/YEL wire is used to indicate protective earth conductors, accessible parts connected to earth parts, and potential equalization conductors.

EMITTING X-RAY SOURCE



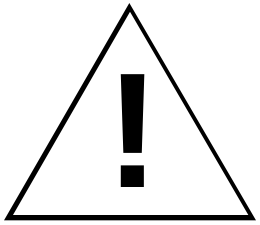
This symbol indicates the presence or potential of producing ionizing X-radiation.

NON-A/P



This symbol indicates that equipment is non-anesthetic proof and should not be operated in the presence of flammable vapors, liquids or other substances.

ATTENTION



This symbol cautions you to refer to the service manual for additional information.

Completing the PM Form

1. At the top of the **MINI6600 Periodic Maintenance Form**, check whether you are performing a Semi-Annual or an Annual PM.
2. Completely fill in the customer information block, including the Time Of Day (start time) measured in military time, System Serial Number and the Field Service Report (FSR) / Request ID Number. Indicate the system configuration with appropriate check marks.

NOTE:

Test equipment used must have current calibration dates. Do not use test equipment with expired calibration stickers.

3. While performing the Periodic Maintenance procedures, log all test equipment used in the Test Equipment Used block of the **Periodic Maintenance Form.**
4. Place a check mark on the PM Form as each test paragraph is completed. Fill in actual measured values where indicated on the PM Form. If adjustments are made, note the adjustment in the comments section of the PM Form.

Begin Periodic Maintenance

Remove the Power And Covers

WARNING:

Electrical circuits inside the equipment use voltages that are capable of causing serious injury or death from electrical shock. Use appropriate precautions.

1. If the system has power applied, position the System keyswitch/pushbutton to the OFF position. Verify that the System's AC power cord is not plugged into the wall outlet.
2. Remove the System covers. Refer to the System Overview section in the MINI6600 Digital Mobile C-Arm Service Manual (00-878315) for cover removal procedures.

Elapsed Time Indicator

Read the elapsed time meter on the System and enter the number on the PM Form.

Inspect the Static Drag Wire

1. Verify that the static drag wire underneath the System is touching the floor.
2. Verify the static drag wire is securely attached.

Inspect the Articulating Arm and Brake

Verify that the articulating arm mechanics move freely and smoothly throughout the entire range of motion.

Inspect the Rotation Brake

1. Release the rotation brake and rotate the MINI-C assembly.
2. Verify smooth rotation.
3. Verify that the brake locks the mechanics in any position within the range of motion.

Inspect the Orbital Brake

1. Release the orbital brake.
2. Move the MINI-C throughout the orbital range. Ensure smooth operation.
3. Verify that the brake locks the mechanics in any position within the range of motion.

Verify the System Steering And Brake Operations

1. Select the LOCK mode by pressing the steering brake pedal completely down. Verify that the casters and wheels are locked in position and do not move.
2. Select the FREE mode by lifting the steering pedal up halfway. Verify that the casters rotate and the wheels roll freely.
3. Select the STEER steering mode by lifting the steering pedal completely up. Verify that the casters rotate into the steering position and lock, and the wheels roll freely.

Inspect/Clean the System Air Filter

Inspect and clean the System air filter attached to the rear panel.

Inspect the AC Power Cable

Inspect the System AC power cable for damage and wear.

Inspect the Cables, Connectors and PCB's

1. Inspect all the cables for damage. Look for signs of abrasion to the cable jacket. If abrasions are detected, replace the cable.
2. Inspect all connectors. Ensure that all connectors are seated securely.
3. Ensure all PCB's are seated securely.

Measure the Ground Continuity

WARNING: **Do not perform this continuity test with the AC plug plugged into a power receptacle.**

Verify the system power cord is disconnected from the AC receptacle.

From	To	Spec
System Equipotentiality Stud (Underneath the bottom right side)	AC Power Plug Ground Pin	< 0.15 Ω

TABLE 1

Power Up the System

1. Plug the AC power cord into the wall receptacle.
2. Turn or press the System keyswitch/pushbutton to ON.
3. The system will perform a Power ON self-test during power up.

Cart Progress and Error Codes

1. Failure of the self-test will be indicated by error codes on the System rear panel LED's.
2. If any code remains and the system fails to complete the Power ON sequence, refer to your Service Manual (00-878315).
3. Verify that the elapsed time indicator is running.

NOTE:

The elapsed time indicator will increment every 6 minutes or 1/10th of an hour. If the indicator is not running, initiate repairs before continuing Periodic Maintenance.

System Virus Inspection

1. Turn or press the system keyswitch/pushbutton to the OFF position.
2. Access DOS by inserting a DOS disk in drive A and turn or press the keyswitch/pushbutton to the ON position.
3. When you see A:\> remove the DOS Disk and insert the Virus Scan Disk.
4. Run the virus scan program.
5. Repair/clean any files found infected. Remove the virus scan disk.
6. Reboot the system.

Measure the Line Voltage Regulation

WARNING:

This procedure produces high energy X-rays. Even though the system radiation levels are lower than other OEC C-arms, wear protective radiation clothing. Because of the radiation produced, non-service personnel should not be present in the room during any of the following tests.

1. Measure the AC line voltage at the wall receptacle.

   Vn=_____

2. Verify that the white/blue wire is connected to Primary 1 COM and the blue wire is connected to Primary 2 COM.

3. Ensure that the brown wire and the white/brown wire are properly strapped to match the input line voltage, measured in step 1, as indicated by the following table:

Transformer Tap	**105V**	**115V**	**125V**
Input Volt Range	98 to 107	108 to 117	118 to 127

TABLE 2

NOTES:

(A) Additional information regarding the transformer taps can be found in the Power Distribution section of the Service Manual (00-878315).

(B) In the next step, the voltage measured at the wall receptacle may drop during the fluoroscopic exposure. Read the meter at this time.

(C) Place a lead apron over the I.I. to prevent any undo wear and tear to the image tube.

4. Measure the line voltage at the wall receptacle while making a fluoroscopic exposure at 98µA @ 75kV (Max load voltage).

   V1=_____

5. Use the following formula to calculate the percentage of line voltage regulation and record the results below.

$$\text{Line Regulation} = 100 \times \frac{(Vn - V1)}{V1}$$

   where: Vn = No load voltage

   V1 = Max load voltage

   Regulation = _____%

6. If the results above do not fall within the range of 0 to 15 percent, the hospital should be informed that an in-house wiring problem exists that should be corrected as soon as possible. Note this on the FSR. (This problem results in a violation of a provision of the Federal Performance Standards 21 CFR 1020.30)

Inspect/Adjust the System Power Supply Voltages

WARNING:

Electrical circuits inside the equipment use voltages that are capable of causing serious injury or death from electrical shock. Use appropriate precautions.

PS4 (24V)

1. Remove the plexiglass shield preventing access to PS4 (refer to the **Power Distribution section, FIGURE 2** of the service manual (00-878315) for the location of PS4). Record the values measured in the following steps on the **Periodic Maintenance Form.**
2. Measure the +24V on the monitor circuit boards at J6 between the black (GND) and yellow (+24V) wires. Adjust R11 on PS4 to +24 VDC (±1V) if necessary. Refer to FIGURE 1 for the location of R11.

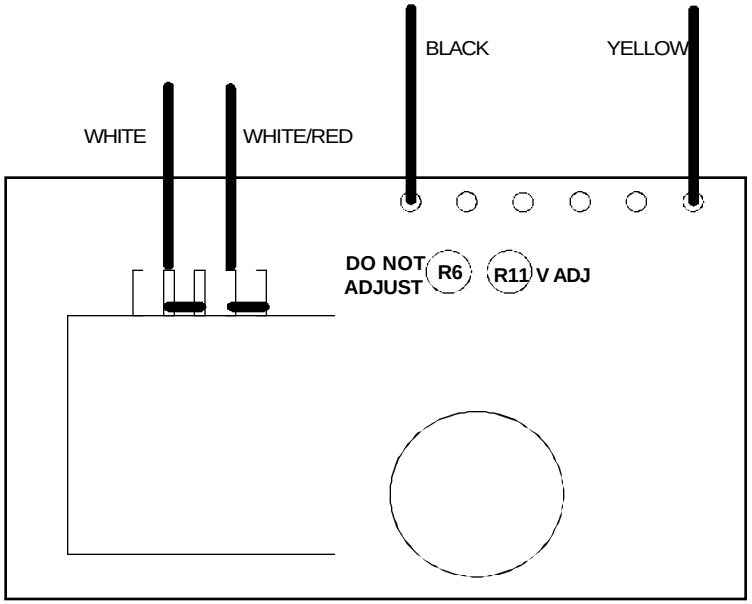


FIGURE 1 - SYSTEM POWER SUPPLY PS4 +24VDC

PS1 (5V and 12V)

1. Measure the voltages at the following test points on the Video Switching PCB and adjust as required with R53 (+5) and R21 (+12) on PS1. Refer to **FIGURE 2 in the Power Distribution** section of the service manual (00-878315) for the location of PS1. Refer to FIGURE 2 below for locations of R53 and R21.
2. The Video Switching PCB is located on the inside of the hinged rear panel of the electronics box (Refer to **FIGURE 4 in the Power Distribution** section of the service manual (00-878315)).

GND	TO	ADJUST	MEASUREMENT	TOLERANCE
TP25	TP24	Not Adjustable	- 5.0 VDC	±0.75 VDC
TP25	TP27	Adjust PS1 R53 (OUT1)	+ 5.0 VDC	±0.75 VDC
TP25	TP28	Adjust PS1 R21 (OUT 2)	+12 VDC	±1 VDC
TP25	TP19	Not Adjustable	- 12 VDC	±1 VDC

TABLE 3

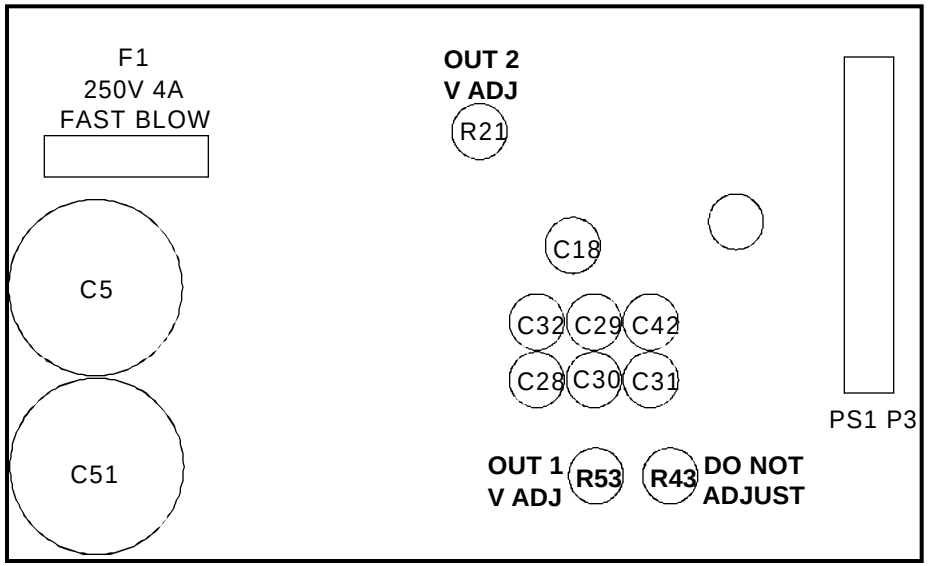


FIGURE 2 - System Power Supply PS1 (+5V, -5V, +12V, -12V)

Inspect/Adjust the C-Arm Power Supply Voltages (PS2)

WARNING:

Electrical circuits inside the equipment use voltages that are capable of causing serious injury or death from electrical shock. Use appropriate precautions.

1. Refer to the **PROCEDURES** section of the service manual (00-878315) for accessing the 6600 Controller PCB. Refer to the **Power Distribution section** in the service manual (00-878315) for the location of PS2.
2. PS2 output voltages are adjusted using the voltage adjustment pot shown in FIGURE 3. Power supply voltages are measured on the 6600 Controller PCB at the test points listed below:

- Lead	+ Lead	Supply Tolerance	Reading Range
TP2	TP42	+24.0 VDC +10%/-5%	+22.8 to +26.4 VDC
TP2	TP37	+12.0 VDC ±3%	+11.6 to +12.4 VDC
TP2	TP23	+5.0 VDC ±2%	+4.9 to +5.1 VDC (VCC)
TP2	TP39	+5.00 VDC ±2%	+4.9 to +5.1 VDC (+5.00 V Ref)
TP2	TP43	-10.00 VDC ±2%	-9.8 to -10.2 VDC (-10.00 V Ref)
TP2	TP44	-12.0 VDC ±3%	-11.6 to -12.4 VDC

TABLE 4

NOTE:

The 6600 Controller PCB contains a circuit breaker (CB1) to protect the +24 volt supply to the monoblock X-ray source.

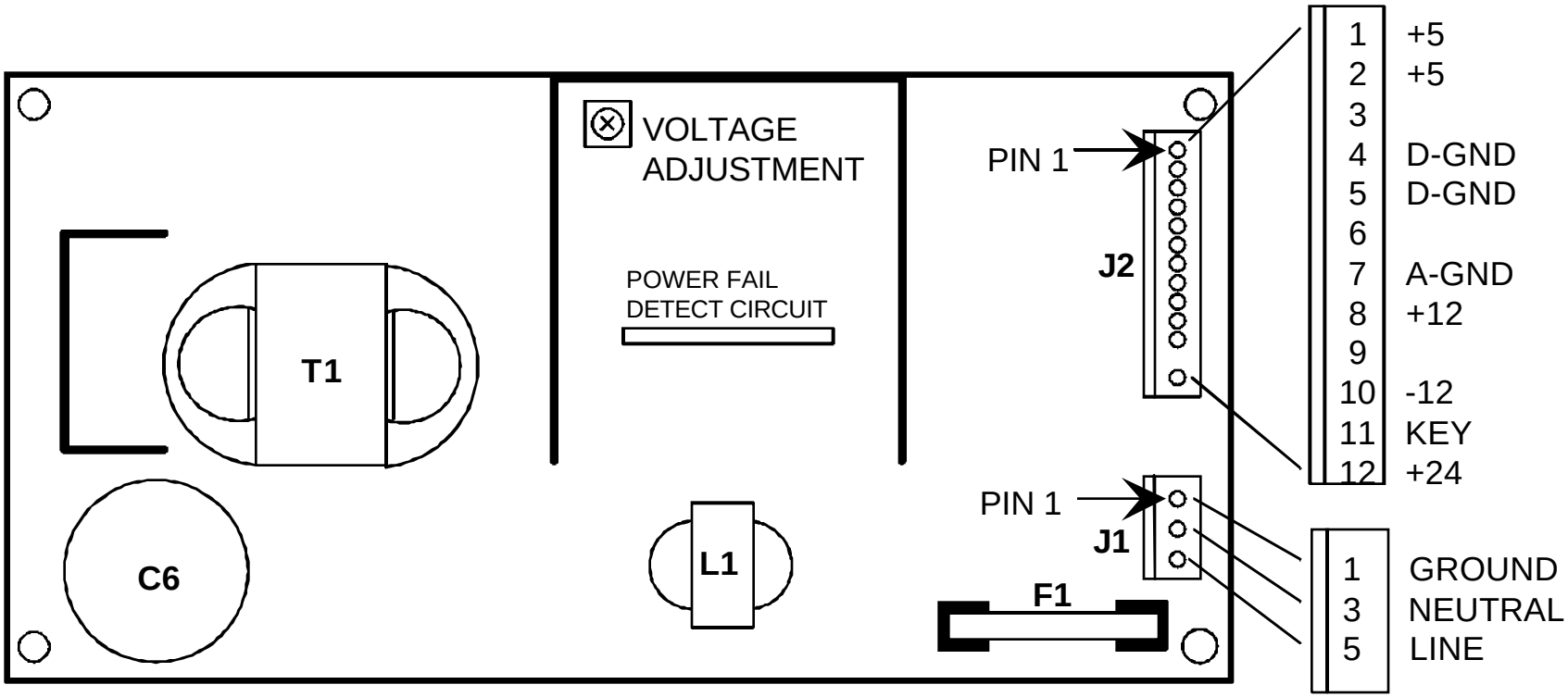


FIGURE 3 - C-Arm Power Supply PS2 (+5V, +15V, -15V, +24V)

Inspect the Service Outlet Strip

1. Check for 115 VAC ± 5 VAC at the service outlet strip located below the monitors at the rear of the System.
2. Check for 230 VAC ± 10 VAC at the service outlet strip located below the monitors at the rear of the System.

Perform the System Diagnostic Tests

1. Insert the Service Disk into the disk drive. Same service disk as used for the Series 9600 C-Arm (00-877444).
2. Press SETUP OPTIONS and access Level 2 diagnostics. Select the Setup Options menu, and then select Run System Diagnostics. The following tests will appear:
   - Front Panel Test
   - System Memory Tests (AT Motherboard Memory)
   - Image Processor Tests (IP PCB Memory)
   - Toggle Motion Artifact (Toggles ON/OFF), Non Functional
3. Select the Front Panel Test and press the following switches and verify that a hex code is displayed and an audible tone is heard for each switch pressed: Negate, VCR Play, VCR Record, Auto, Help, Brightness and Contrast, Fluoro, One Shot, Enhanced. Averaging, L-R.
4. Verify that the remaining tests pass successfully. Press the ENTER key to toggle through tests.
5. Remove the Service Disk from the disk drive.
6. Pressing ESC will exit the System Diagnostic tests and reboot the System.

Verify the System Controls

WARNING:

Steps within this procedure produce X-rays. Use appropriate precautions.

1. Connect the footswitch and the handswitch (optional) to the system. Confirm the operation of each switch.
2. Place the Beam Alignment Tool on the Image Intensifier.
3. Verify the CAMERA rotation operation.
4. Verify the camera REVERSAL operation.
5. Verify the NEGATE operation.
6. Verify the MANUAL BRIGHTNESS and CONTRAST operations.
7. Verify the AUTO BRIGHTNESS AND CONTRAST operations.
8. Verify the MANUAL MODE kV/µA operation.
9. Verify the AUTO NORMAL MODE operation.
10. Verify AUTO OSTEO/PED MODE operation.
11. Verify the image SAVE operation. Not applicable if system is equipped with 4 image storage capability.
12. Verify the VCR RECORD and the VCR PLAY operations (if applicable).
13. Verify the ONE-SHOT MODE.
    a. System will fluoro until the video stable condition is achieved and then terminate the exposure.
14. Verify the ENHANCED MODE.
    a. System will fluoro until the video stable condition is achieved and then terminates the exposure as well as enhances edge.

15. Verify the AVERAGING operation.

No Lamps Lit	Intrinsic Averaging	2 Frames
1 Lamp Lit	Low Averaging	4 Frames
2 Lamps Lit	Medium Averaging	8 Frames
3 Lamps Lit	High Averaging	16 Frames

TABLE 5

16. Verify the PATIENT ANNOTATION operation.
17. Verify the DISK VIEW operation (16 image option systems).
18. Verify the TEST PATTERN operation.
19. Verify the ALARM RESET operation.
20. Verify L-R operation.
21. Verify the HELP operation.
22. Verify the SET-UP OPTIONS operation.

NOTE:

The image directory, markers, X-ray summary, special apps and customize features are not operational. Attempts at selecting these features will produce a negative beep.

Perform the Accessory Operational Test

1. Test the operation of any accessories which may be configured with the system; such as a thermal printer or VCR.

Inspect/Adjust the Gen-Lock Calibration

1. Observe LED's DS1 and DS2 on the Video Switching board. If both LED's are illuminated, the gen-lock circuit is calibrated.
2. If both DS1 and DS2 are not equally illuminated, adjust tuning capacitor C89, on the Video Switching PCB, (using a non-conductive alignment tool) until both LED's are illuminated equally. This verifies that the gen-lock circuit is tuned to the center of its operating range.

Perform the Camera And Beam Alignment

WARNING:

Steps within this procedure produce X-rays. Use appropriate precautions.

Refer to the **PROCEDURES** section in the Service Manual (00-878315).

Complete the following procedures:

- **CCD Camera Preparation**
- **Camera Focus**
- **Image Intensifier Focus**
- **Monitor/Camera Alignment Pattern**
- **Confirm Monitor Size & Linearity**
- **Camera Alignment**
- **Beam Alignment**
- **Beam Alignment Verification**
- **Window Placement Verification**
- **Set Camera Iris and Video Gain**
- **Align and Check Rotation Indicator**
- **Verify Resolution**

Check the Entrance Exposure

WARNING:

Steps within this procedure produce X-rays. Use appropriate precautions.

Refer to the **PROCEDURES** section in the Service Manual (00-878315).

Attention:

Stop here if you are performing a semi-annual PM. Proceed directly to Cleanup.

Complete the Annual Maintenance section if you are performing an annual Periodic Maintenance.

Annual Maintenance

WARNING:
Steps within this procedure produce X-rays. Use appropriate precautions.

Complete all semi-annual PM procedures.

Refer to the **PROCEDURES** section of the Service Manual (00-878315). Complete the following sections:

Accessing 6600 Controller PCB Test Points

Indicated vs. Actual Technique Verification

Record Technique Verification readings on the PM Form.

Clean-up

WARNING:

Steps within this procedure produce X-rays. Use appropriate precautions.

1. Use the compressed air to remove any dust particles from inside the system.
2. Reboot and verify system operation.
3. Replace all covers and wipe down the System.

Complete the PM Form

1. Verify that the information blocks have been completed.
2. Verify that each procedural step has been checked.
3. Attach all films to the Periodic Maintenance Form cover.
4. Sign and date the PM Form.
5. Obtain the customers signature and date. Leave the customer’s copy with the customer.
6. Mail the form and film(s) to:

OEC MEDICAL SYSTEMS, INC.
ATTENTION: TECHNICAL SUPPORT
384 WRIGHT BROTHERS DRIVE
SALT LAKE CITY, UTAH 84116

APPENDIX A: Tool & Equipment List

Required Tools

In addition to common hand tools the following tools will be required:

Torx Screwdriver Set
1.5mm allen wrench
Jewelers Screwdriver Set.

Required Test Equipment

The test equipment required to complete the PM include:

Oscilloscope Tektronix 2236 or equivalent
Digital Volt-Ohm-Meter
Dosimeter (Keithley Model 35050, PMX II non-invasive meter or equivalent)
Model 96030 ion chamber
Resolution Tool, Converging Line Pair (LP/mm), OEC P/N 00-900860
Resolution Tool, Mesh (LP/Inch), OEC P/N 00-900040
Ion Chamber Positioning Fixture
Lead Apron
1 mm Copper Filter (3 each required), OEC P/N 00-877682
MINI6600/9600 Service Disk (software), OEC P/N 00-877444
Beam Alignment Tool, OEC P/N 00-879272
Canned Air, OEC P/N 88-299311
TP35 Cleaner, OEC P/N 88-299318.

Paint Kits

PART NUMBER	DESCRIPTION
900524-11	Paint Kit, Elite Gray, Texture
900524-12	Paint Kit, Rhinestone, Texture
900524-13	Paint Kit, Windswept, Texture

TABLE 6

Torx Crestcup Torque Specifications

TORX SCREW SIZE	NOMINAL TORQUE VALUE	ACCEPTABLE RANGE
4-40	6 lbs./in	5-8 lbs./in
6-32	15 lbs./in	13-16 lbs./in
8-32	22 lbs./in	21-24 lbs./in
10-32	30 lbs./in	28-31 lbs./in

TABLE 7

APPENDIX B: X-Ray Verification Requirements

X-radiation output must be verified, annually, during regular Periodic Maintenance procedures or when certified components are replaced. Certified components used in the MINI6600 Mobile Imaging System include the following:

- Monoblock Tube Assembly*
- Image Intensifier Assembly*
- Beam Limiting Device*
- X-ray Control Assembly

* Complete Report of Assembly, FDA Form 2579, whenever any of the preceding assemblies are replaced in their entirety, per 21 CFR 1020.30 (d) (1) and (2).

The measurement values used for these tests are not the design specifications. The test specifications used here take into account measurement limitations and their use will ensure that the design specifications are met.

OEC MEDICAL SYSTEMS, INC

MINI6600™
Periodic Maintenance Inspection

Performed at: _____
(Hospital Name)

_____
(Street Address)

_____
(City) (State) (Zip)

Performed on: ____/____/____ System S/N _____
(Date)

Performed by: _____
(Printed Name of Service Engineer) (Emp. # or Dealer Name)

Type of PMI Performed: Check One

❑ Semi-Annual ❑ Annual

Return this booklette with the Yellow copies intact and the Beam Alignment Films attached, to:

OEC Medical Systems, Inc.
384 Wright Brothers Dr.
Salt Lake City, UT. 84116
Attn: Technical Support Dept.

Print 3 Pages

Attach Beam Alignment Films Here

☛ (Tape or Staple)

REMINDER !

MINI6600 system exposures must clearly indicate the following:

1) Normal field exposure, six or four inch
2) Four inch collimated exposure (Six inch systems).

NOTES:

1**.** Exposures made on Multi-format cameras, i.e., Lenzar, Visiplex, etc., are NOT acceptable as proof of Radiographic alignment.

2**.** If any of the above requirements are not met, a re-visit to the hospital will be required, to re-do the films, until such time as they meet the requirements and specifications. In cases where the hospital or clinic does not own or have access to a film processor, beam films will not be required. However, this *must* be noted on the PMI form. If not noted, it will be cause for rejection, and a Discrepancy Report will be generated and distributed.

OEC MEDICAL SYSTEMS, INC

Time of Day:

Semi-annual PM ☐
Annual PM ☐

MINI6600 IMAGING SYSTEM

PERIODIC MAINTENANCE

Customer Name _____ **City** _____ **Serial No.** _____

Street _____ **State** _____ **Zip** _____ **FSR No.** _____

PERIODIC MAINTENANCE PROCEDURES		COMMENTS
1. GENERAL INSTRUCTIONS		Semi-annual PM: Perform 1, 2, 3, 4, 6, 7
2. SAFETY		Annual PM Perform: 1, 2, 3, 4, 5, 6, 7
3. COMPLETING THE PM FORM		
4. BEGIN PERIODIC MAINTENANCE		
Remove Power and Covers	☐	
Elapsed Time Indicator	☐	Elapsed Time Indicator : _____
Inspect Static Drag Wire	☐	
Inspect the Articulating Arm	☐	
Inspect the Rotation Brake	☐	
Inspect the Orbital Brake	☐	
Verify System Steering and Brake Operation	☐	
Inspect/Clean the Workstation Air Filter	☐	
Inspect the AC Power Cable	☐	
Inspect the Cables, Connectors and PCBs	☐	
Measure Ground Continuity	☐	
Power Up the System	☐	
System Virus Inspection	☐	
Measure Line Voltage Regulation	☐	Line Voltage Regulation = _____%
Inspect/Adjust Workstation Power Supply Voltages	☐	Record Voltages Measured Below
Inspect/Adjust Mini C-Arm Power Supply Voltages	☐	Record Voltages Measured Below
Inspect the Service Outlet Strip	☐	Record Voltages Measured Below

WORKSTATION VOLTAGES	WORKSTATION POWER STRIP	MINI C-ARM VOLTAGES
+24 VDC (+/- 1.0) _____ VDC	115 VAC (+/- 5.0) _____ VAC	+5 VDC (+/- 0.10) _____ VDC
+5 VDC (+/- 0.1) _____ VDC	230 VAC (+/- 10.0) _____ VAC	+12 VDC (+/- 0.36) _____ VDC
-5 VDC (+/- 0.75) _____ VDC		-12 VDC (+/- 0.36) _____ VDC
+12 VDC (+/- 1.0) _____ VDC		+24 VDC (+2.4,-1.2) _____ VDC
-12 VDC (+/- 1.0) _____ VDC		-10 VDC (+/- 0.2)_____ VDC

SYSTEM CONFIGURATION

4" I.I.☐ 6" I.I.☐

Hard Copy Camera ☐ S/N _____

VCR ☐ S/N _____

Thermal Printer ☐ S/N _____

TEST EQUIPMENT USED

TYPE	MODEL	S/N	CAL DUE DATE

COMMENTS:

_____ **Customer Signature** **Date**

_____ **Service Engineer Signature** Employee # **Date**

OEC MEDICAL SYSTEMS, INC

MINI6600 IMAGING SYSTEM
Periodic Maintenance

OEC MEDICAL SYSTEMS, INC

PERIODIC MAINTENANCE PROCEDURES	COMMENTS
Perform System Diagnostic Tests ☐	
Verify the System Controls ☐	
Perform Accessory Operational Test ☐	
Inspect/Adjust Gen-Lock Calibration ☐	
Perform Camera and Beam Alignment ☐	
Record Image Resolution ☐	Circle One: 60 Hz or 50 Hz
Check Entrance Exposure ☐	Actual Dose Rate = _____(**0.89 R/min)**

RECORD NEW IMAGE RESOLUTION	FIELD SIZE	60 Hz MIN lp/mm	50 Hz MIN lp/mm	MEASURED
	6"	2.5 mm	2.2 mm	
	4"	3.0 mm	2.6 mm	

PERIODIC MAINTENANCE PROCEDURES	COMMENTS
END SEMI-ANNUAL PM ☐	
5. ANNUAL PM ☐	
Accessing 6600 Controller PCB Test Points ☐	
Indicated vs. Actual Technique Verification ☐	
6. CLEAN-UP ☐	
7. COMPLETE PM FORM ☐	
☐	Record X-ray Calibration Data
☐	Attach Films

X-RAY VERIFICATION TEST DATA

TEST POINTS		TECHNIQUE DATA	TOLERANCE	MEASUREMENTS
TP14 (GND)	TP25	75 kVp @ 98.0 micro amp	+7.20 VDC to +7.80 VDC	_____ VDC
TP14 (GND)	TP15	75 kVp @ 98.0 micro amp	+4.70 VDC to +5.10 VDC	_____ VDC
TP14 (GND)	TP25	58 kVp @ 35.2 micro amp	+5.57 VDC to +6.03 VDC	_____ VDC
TP14 (GND)	TP15	58 kVp @ 35.2 micro amp	+1.69 VDC to +1.83 VDC	_____ VDC
TP14 (GND)	TP25	40 kVp @ 19.6 micro amp	+3.84 VDC to +4.16 VDC	_____ VDC
TP14 (GND)	TP15	40 kVp @ 19.6 micro amp	+0.94 VDC to + 1.02 VDC	_____ VDC
DOSIMETER		75 kVp @ 98.0 micro amp	72 kVp to 78.0 kVp (+/- 4%)	_____ kVp

COMMENTS: